Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

lence, always experienced in our studies as related above and also in consequence of the greater resistance of a certain number of the survivors. Thus, when it is desired to destroy a large majority of the rats which infest a locality, the culture must be distributed at intervals of ten to twelve days, that is to say, at the period when the preceding distribution will have produced its effect.

The season of the year in which this treatment ought to be applied is not altogether a matter of indifference. The young rats are much more susceptible to the action of the virus than the old ones, and the epidemics will be more deadly in spring (April, May, and June) and in autumn (September to December) than at other periods of the year.

By systematically destroying during ten successive years, the young generations, which succumb inevitably, we would finish by destroying all rats in a most complete manner.

Experiments made simultaneously at Lille, by M. Calmette, director of the Pasteur Institute of Lille; at Hamburg by Dr. Abel, sanitary physician; at Copenhagen by M. Th. Madsen; and at Tunis by M. Loir, director of the bacteriological station, have given very nearly the same results.

Rats in a cage have always succumbed after an ingestion of culture, in from eight to twelve days, the greater number of wholesale experiments resulting in a total or very complete disappearance of rats.

THE CONSTITUENTS OF HAFFKINE'S ANTIPLAGUE VACCINE.—BY S. S. MALLANNAH, M. B.

[Extracted from the British Medical Journal, May 12, 1900.]

I have carried out several experiments in order to find out the real immunizing constituent of Haffkine's prophylactic. The prophylactic fluid was passed through a Pasteur-Chamberland filter.

(1) The sediment found on the bougie consisted of bodies of dead plague bacilli. It was proteid in reaction and protected rabbits from plague in doses of 300 mg.

(2) The filtrate, a clear fluid, also gave proteid reactions and possessed well-marked protective power, even in small doses. It is possible to isolate, after Brieger's method of preparing tetanus toxin, the immunizing substance from Haffkine's fluid in a more or less pure condition, and this immunizing substance does not respond to any of the known proteid reactions, and possesses well-marked protective power in rabbits against plague in doses of 100 mg. This immunizing substance is gray and amorphous, and is soluble in water. It might be termed extracellular, as it is found dissolved in the surrounding media. The immunizing substance present in the sediment might be called intracellular, as it is found in the bodies of the dead bacilli.

The extracellular immunizing substance is found in the bodies of the cells (plague bacilli), and is then thrown into the surrounding media, and this substance is formed most probably when the plague bacilli disintegrate.

Plague bacilli produce, besides the immunizing substance, a proteid which produces pus, and this proteid is found in the bodies of the dead bacilli. I have found that the induration at the seat of the inoculation occurs whenever the Haftkine's fluid is used, especially when it is used subcutaneously, or whenever the sediment on the bougie is used; whereas these indurations never occur when the filtrate of Haffkine's fluid or extracellular or immunizing substance is used.

I have found that these indurations generally contain sterile pus. From this it is clear that the pus-producing substance is in the dead bacilli. This fact also coincides with the clinical facts observed by many.

(1) Suppuration never occurs in severe cases of plague, but only in mild cases or in those cases in which the duration of the disease is long—that is, when plague bacilli are dying or disintegrating. Of course it must not be forgotten that suppuration occurs in cases of mixed infection in which plague germs enter the system with pyogenic cocci.

(2) It is known that it is impossible to get a culture of plague bacilli or even to find plague bacilli in buboes when suppuration has advanced. This, however, can be explained in two ways—

(*a*) The plague bacilli are dead or disintegrating.

(*b*) In cases of mixed infection pyogenic cocci might overgrow or outlive plague bacilli; but I have found from experiments that pyogenic cocci have no deleterious influence on plague bacilli, and also that they have no prophylactic power whatever against plague, as rabbits previously inoculated with pyogenic cocci invariably die of plague when subsequently inoculated with it.

[Reports to the Surgeon-General United States Marine-Hospital Service.]

Disinfection of baggage on steamship Alameda from Sydney, Australia, at San Francisco, Cal.

San Francisco Quarantine Station,
Angel Island, Cal., May 8, 1900.

Sir: I have the honor to report the arrival of the steamship *Alameda* from Sydney via Auckland with 96 cabin passengers and 64 steerage passengers on board. The bill of health given by the United States consul at Sydney stated that up to and including April 11 there were 82 cases of plague with 26 deaths. Information has also reached me through the public press that the disease has appeared at Brisbane and Adelaide and rats dead with plague were found on the docks at Auckland. The baggage of passengers from Sydney and Auckland was disinfected. * * *

I would state further, for the information of the Bureau, that so far Sydney has made no provisions for disinfection of vessels, there being on quarantine station.

Respectfully,

J. J. Kinyoun,
Surgeon, U. S. M. H. S.